

WHAT IS CLAIMED IS:

1. A contact lens, comprising:

5 a contact lens body having a generally spherical base curvature with a convex anterior face, a concave posterior face, and a peripheral edge therebetween with a peripheral zone being defined adjacent the peripheral edge of the anterior face that is tapered thinner toward the peripheral edge of the lens, the body having a thickness between the anterior face and the posterior face and being non-axisymmetric so as to define a superior edge and an inferior edge, with a vertical meridian being defined from the superior edge toward the inferior edge and a horizontal meridian being defined perpendicular thereto;

10 a plurality of zones on the anterior face, including an inner zone circumscribed by the peripheral zone, and an optic zone defined generally in the middle of the inner zone, wherein the inner zone includes a ballast portion and the thickness increases parallel to the vertical meridian from the superior edge toward the inferior edge in at least the ballast portion of the inner zone;

15 wherein the inner zone comprises a superior portion between the optic zone and the superior extent of the inner zone, an inferior portion between the optic zone and the inferior extent of the inner zone, and an intermediate portion between the superior and inferior portions; and

20 the ballast portion is defined within one or more of the superior, intermediate, and inferior portions and has a series of consecutive horizontal cross-sections exclusive of the peripheral zone and optic zone spanning a distance along the vertical meridian of at least 20% of the smallest dimension of the superior, intermediate, and inferior portions as measured along the vertical meridian, wherein each horizontal cross-section has a substantially uniform thickness not varying by more than about 30 μm or 20%,

whichever is greater in absolute terms.

2. The contact lens of claim 1, wherein the thickness of the at least one horizontal cross-section does not vary by more than about 15 μm or 10%, whichever is greater in absolute terms.

3. The contact lens of claim 1, wherein, along a 225° meridian, the distance between the inner zone and the peripheral edge is less than about 1.45 mm.

4. The contact lens of claim 1, wherein, along a 225° meridian, a rate of change of thickness in the tapered peripheral zone is less than about 250 $\mu\text{m}/\text{mm}$.

5. The contact lens of claim 1, wherein the ballast portion is a prism ballast.

6. The contact lens of claim 1, wherein the ballast portion spans a distance along the vertical meridian of at least 50% of the smallest dimension of the superior, intermediate, and inferior portions as measured along the vertical meridian.

7. The contact lens of claim 1, wherein the ballast portion is defined wholly within only one of the superior, intermediate, and inferior portions.

8. The contact lens of claim 1, wherein the ballast portion is defined wholly within only two of the superior, intermediate, and inferior portions.

9. The contact lens of claim 1, wherein the ballast portion is defined within all three of the superior,

intermediate, and inferior portions.

10. The contact lens of claim 1, wherein the ballast portion spans a distance along the vertical meridian of at least 50% of the respective dimensions of the superior, intermediate, and inferior portions as measured along the vertical meridian.

11. The contact lens of claim 10, wherein the ballast portion spans a distance along the vertical meridian of at least 100% of the respective dimensions of the superior, intermediate, and inferior portions as measured along the vertical meridian.

12. The contact lens of claim 11, wherein the ballast portion is provided on the entire inner zone including the optic zone.

13. The contact lens of claim 11, wherein the ballast portion is provided on the entire inner zone except for the optic zone.

14. The contact lens of claim 1, further including a cylindrical correction on either the anterior face or the posterior face.

15. The contact lens of claim 14, wherein the cylindrical correction is provided on the posterior face, and wherein the optic zone of the anterior face comprises a spherical correction.

16. The contact lens of claim 1, wherein the inner zone is of substantially uniform radial width around the circumference of the lens.

17. The contact lens of claim 16, wherein a band circumscribed by the peripheral zone and around the optic zone is substantially annular, with a superior distance A being defined along the vertical meridian and within the inner zone from the optic zone to the peripheral zone, and an inferior distance B being defined along the vertical meridian and within the inner zone from the optic zone to the peripheral zone, and wherein $0.25A \leq B \leq A$.

18. The contact lens of claim 1, wherein the body is a soft contact lens.

19. The contact lens of claim 1, wherein the ballast portion is a periballast.

20. The contact lens of claim 1, wherein the lens further incorporates a dynamic stabilization mechanism.

21. The contact lens of claim 1, wherein the lens further incorporates a negative spherical power distance correction.

22. A contact lens, comprising:

5 a contact lens body having a generally spherical base curvature with a convex anterior face, a concave posterior face, and a peripheral edge therebetween with a peripheral zone being defined adjacent the peripheral edge of the lens that tapers thinner toward the peripheral edge of the lens, the body having a thickness between the anterior face and the posterior face and being non-axi-symmetric so as to define a superior edge and an inferior edge, with a
10 vertical meridian being defined from the superior edge toward the inferior edge and a horizontal meridian being defined perpendicular thereto;

wherein the anterior face defines a plurality of zones thereon, including an inner zone circumscribed by the peripheral zone and having a prism ballast portion therein, and an optic zone defined generally in the middle of the inner zone, wherein the thickness increases parallel to the vertical meridian from the superior edge toward the inferior edge in at least the prism ballast portion of the inner zone; and

wherein, along a 225° meridian, the distance between the inner zone and the peripheral edge is less than about 1.4 mm.

23. The contact lens of claim 22, wherein, along the 225° meridian, a rate of change of thickness in the tapered peripheral zone is less than about 250 $\mu\text{m}/\text{mm}$.

24. The contact lens of claim 23, wherein, along the 225° meridian, a rate of change of thickness in the tapered peripheral zone is less than about 200 $\mu\text{m}/\text{mm}$.

25. The contact lens of claim 22, wherein the maximum thickness along a 225° meridian of the lens is between about 200-400 μm .

26. The contact lens of claim 25, wherein the maximum thickness along the 225° meridian is between about 250-350 μm .

27. The contact lens of claim 22, wherein the inner zone comprises a superior portion between the optic zone and the superior extent of the inner zone, an inferior portion between the optic zone and the inferior extent of the inner zone, and an intermediate portion between the superior and inferior portions, and wherein the prism

ballast portion is defined within one or more of the superior, intermediate, and inferior portions and has a series of consecutive horizontal cross-sections exclusive of the peripheral zone and optic zone spanning a distance along the vertical meridian of at least 20% of the smallest dimension of the superior, intermediate, and inferior portions as measured along the vertical meridian, wherein each horizontal cross-section has a substantially uniform thickness not varying by more than about 30 μm or 20%, whichever is greater in absolute terms.

28. The contact lens of claim 22, wherein, along a 270° meridian, the distance between the inner zone and the peripheral edge is less than about 1.8 mm.

29. A molded contact lens, comprising:

a fully molded contact lens body having a generally spherical base curvature with a convex anterior face, a concave posterior face, and a peripheral edge therebetween with a peripheral zone being defined adjacent the peripheral edge of the lens that tapers thinner toward the peripheral edge of the lens, the body having a thickness between the anterior face and the posterior face and being non-axi-symmetric so as to define a superior edge and an inferior edge, with a vertical meridian being defined from the superior edge toward the inferior edge and a horizontal meridian being defined perpendicular thereto;

wherein the anterior face defines a plurality of zones thereon, including an inner zone circumscribed by the peripheral zone and having a prism ballast portion therein, and an optic zone defined generally in the middle of the inner zone, wherein the thickness increases parallel to the vertical meridian from the superior edge toward the inferior edge in at least the prism ballast portion of the

inner zone; and

wherein, along a 225° meridian, the distance between the inner zone and the peripheral edge is less than about 1.8 mm.

30. The contact lens of claim 29, wherein the maximum thickness along the 225° meridian is between about 200-400 μm .

31. The contact lens of claim 29, wherein the inner zone comprises a superior portion between the optic zone and the superior extent of the inner zone, an inferior portion between the optic zone and the inferior extent of the inner zone, and an intermediate portion between the superior and inferior portions, and wherein the prism ballast portion is defined within one or more of the superior, intermediate, and inferior portions and has a series of consecutive horizontal cross-sections exclusive of the peripheral zone and optic zone spanning a distance along the vertical meridian of at least 20% of the smallest dimension of the superior, intermediate, and inferior portions as measured along the vertical meridian, wherein each horizontal cross-section has a substantially uniform thickness not varying by more than about 30 μm or 20%, whichever is greater in absolute terms.

32. The contact lens of claim 29, wherein, along a 270° meridian, the distance between the inner zone and the peripheral edge is less than about 2.1 mm.

33. The contact lens of claim 29, along a 180° meridian, the distance between the inner zone and the peripheral edge is less than about 1.3 mm.

34. A molded contact lens, comprising:

a fully molded contact lens body having a generally spherical base curvature with a convex anterior face, a concave posterior face, and a peripheral edge therebetween with a peripheral zone being defined adjacent the peripheral edge of the lens that tapers thinner toward the peripheral edge of the lens, the body having a thickness between the anterior face and the posterior face and being non-axi-symmetric so as to define a superior edge and an inferior edge, with a vertical meridian being defined from the superior edge toward the inferior edge and a horizontal meridian being defined perpendicular thereto;

wherein the anterior face defines a plurality of zones thereon, including an inner zone circumscribed by the peripheral zone and having a prism ballast portion therein, and an optic zone defined generally in the middle of the inner zone, wherein the thickness increases parallel to the vertical meridian from the superior edge toward the inferior edge in at least the prism ballast portion of the inner zone; and

wherein, along a 180° meridian, the distance between the inner zone and the peripheral edge is less than about 1.3 mm.

35. The contact lens of claim 34, wherein, along a 270° meridian, the distance between the inner zone and the peripheral edge is less than about 2.1 mm.

36. The contact lens of claim 34, wherein the inner zone comprises a superior portion between the optic zone and the superior extent of the inner zone, an inferior portion between the optic zone and the inferior extent of the inner zone, and an intermediate portion between the superior and inferior portions, and wherein the prism

ballast portion is defined within one or more of the superior, intermediate, and inferior portions and has a series of consecutive horizontal cross-sections exclusive of the peripheral zone and optic zone spanning a distance along the vertical meridian of at least 20% of the smallest dimension of the superior, intermediate, and inferior portions as measured along the vertical meridian, wherein each horizontal cross-section has a substantially uniform thickness not varying by more than about 30 μm or 20%, whichever is greater in absolute terms.

37. A contact lens, comprising:

a contact lens body having a generally spherical base curvature with a convex anterior face, a concave posterior face, and a peripheral edge therebetween with a peripheral zone being defined adjacent the peripheral edge of the lens that tapers thinner toward the peripheral edge of the lens, the body having a thickness between the anterior face and the posterior face and being non-axi-symmetric so as to define a superior edge and an inferior edge, with a vertical meridian being defined from the superior edge toward the inferior edge and a horizontal meridian being defined perpendicular thereto;

wherein the anterior face defines a plurality of zones thereon, including an inner zone circumscribed by the peripheral zone and having a ballast portion therein, and an optic zone defined generally in the middle of the inner zone, wherein the thickness increases parallel to the vertical meridian from the superior edge toward the inferior edge in at least the ballast portion of the inner zone; and

wherein a band circumscribed by the peripheral zone and around the optic zone is substantially annular, with a superior distance A being defined along the vertical

meridian and within the inner zone from the optic zone to the peripheral zone, and an inferior distance B being defined along the vertical meridian and within the inner zone from the optic zone to the peripheral zone, and wherein $0.55A \leq B \leq A$.

38. A molded contact lens, comprising:

a contact lens body having a generally spherical base curvature with a convex anterior face, a concave posterior face, and a peripheral edge therebetween with a peripheral zone being defined adjacent the peripheral edge of the lens that tapers thinner toward the peripheral edge of the lens, the body having a thickness between the anterior face and the posterior face and being non-axi-symmetric so as to define a superior edge and an inferior edge, with a vertical meridian being defined from the superior edge toward the inferior edge and a horizontal meridian being defined perpendicular thereto;

wherein the anterior face defines a plurality of zones thereon, including an inner zone circumscribed by the peripheral zone and having a molded prism ballast portion therein, and an optic zone defined generally in the middle of the inner zone, wherein the thickness increases parallel to the vertical meridian from the superior edge toward the inferior edge in at least the ballast portion of the inner zone; and

wherein a band circumscribed by the peripheral zone and around the optic zone is substantially annular, with a superior distance A being defined along the vertical meridian and within the inner zone from the optic zone to the peripheral zone, and an inferior distance B being defined along the vertical meridian and within the inner zone from the optic zone to the peripheral zone, and wherein $0.33A \leq B \leq A$.